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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/814,255	03/21/2001	Shunpei Yamazaki	07977-107002	5578
26171 7590 02/16/2007 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER NADAV, ORI	
			ART UNIT	PAPER NUMBER
			2811	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/16/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/814,255

Applicant(s)

YAMAZAKI ET AL.

Examiner

Ori Nadav

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20,28-31,33-38,40-45,47-53,55 and 56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20,28-31,33-38,40-45,47-53,55 and 56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 34 is objected to because of the following informalities: The phrase "the fourth layer" should read "a fourth layer". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20, 28, 34-35, 41-42, 47, 49-50 and 55 are rejected under 35

U.S.C. 102(b) as anticipated by Rodder (4,999,690).

Regarding claims 20, 34, 41 and 49, Rodder teach in figure 1f and related text a semiconductor device having a thin film transistors the thin film transistor comprising:

a semiconductor layer 20 on an insulating surface 10, wherein the semiconductor layer has a side recess 48;

a gate electrode 26 adjacent to the semiconductor layer with a gate insulating film 22 interposed there-between, wherein the gate electrode has a second side recess 50 and a wiring 50, 58 in contact with the gate electrode; and

an interlayer insulating film 54 comprising silicon oxide over at least the gate electrode; and

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a source electrode 48, 56 over the interlayer insulating film, wherein the source electrode is in contact with the semiconductor layer through a contact hole opened in the interlayer insulating film 54, wherein the source electrode contains a first layer 48 and a second layer 56;

wherein the wiring contains a third layer 50 and the fourth layer 58,

wherein the side recess is filled with the first layer 48, and

wherein the second side recess is filled with the third layer.

Regarding claims 28, 35, 42, 47, 50 and 55, Rodder teaches in figure 1f and related text a semiconductor layer contains crystalline silicon, and a silicon oxide interlayer insulating film.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29, 36, 43 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodder in view of Aratani et al. (5,854,139).

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Rodder teaches substantially the entire claimed structure, as applied to claims 20, 34, 41 and 49 above, except a first layer contains at least one selected from the group consisting of germanium, tin, gallium, zinc, lead, indium, and antimony.

Aratani et al. teach a source electrode comprising indium silicide (column 8, line 64 to column 9, line 1).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form Rodder's silicide layer of indium silicide, in order to improve the characteristics of the device.

Claims 31, 33, 38, 40, 45, 48, 53 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodder in view of Applicant Admitted Prior Art (AAPA).

Regarding claims 31, 38, 45 and 53, Rodder teaches substantially the entire claimed structure, as applied to claims 20, 34, 41 and 49 above, except a second layer contains aluminum. AAPA teaches a second layer contains aluminum. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a second layer contains aluminum in Rodder's device, in order to decrease the conduct resistance of the device.

Regarding claims 33, 40, 48 and 56, Rodder teaches substantially the entire claimed structure, as applied to claims 20, 34, 41 and 49 above, except using the device as an active matrix type EL display device.

AAPA teaches using thin film device as an active matrix type EL display device.

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It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Takafuji et al.'s device as an active matrix type EL display device, in order to use the device in an application which requires an active matrix type EL display device.

Claims 30, 37, 44 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodder in view of Tanaka et al. (5,798,744) and AAPA.

Rodder teaches substantially the entire claimed structure, as applied to claims 20, 34, 41 and 49 above, except a first layer is an alloy of aluminum and germanium.

Tanaka et al. teach a first layer can be silicide or germanium compound (column 9, lines 56-61).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a first layer comprises germanium compound instead of silicide in Rodder's device, in order to improve the device characteristics.

Note that forming a first layer comprises germanium, as taught by Tanaka et al., and a second layer of aluminum, as taught by AAPA mean that the first layer would comprise aluminum-germanium, because the aluminum would react with the germanium.

Note that substitution of materials is not patentable even when the substitution is new and useful. *Safetran Systems Corp. v. Federal Sign & Signal Corp.* (DC NIII, 1981) 215 USPQ 979.

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Response to Arguments

Applicant's arguments with respect to claims 20, 28-31, 33-38, 40-45, 47-53 and 55-56 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ori Nadav whose telephone number is 571-272-1660. The examiner can normally be reached between the hours of 7 AM to 4 PM (Eastern Standard Time) Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



O.N.
2/13/07

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